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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,309	03/26/2001	Guizeng Shi	L9289.00120	8781

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EXAMINER

ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 04/23/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/701,309

Applicant(s)

SHI ET AL.

Examiner

Esaw T Abraham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03/23/00.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/28/00.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. Claims 1 to 9 are presented for examination.

#### *Priority*

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

#### *Information Disclosure Statement*

3. The examiner has been considered the references listed in the information disclosure statement (see attached PTO-1449).

#### *Drawings*

4. Figures 1-3 should be designated by a legend such as “**prior art**” (see page 4, lines 21-27) in order to clarify what is applicant’s invention (see MPEP 608.02(g)).

#### *Claim Objections*

5. Claims 2-8 are objected to because of the following informalities:
  - a) Claims 2-6 -- recites “A communication terminal” instead of “The communication terminal”.
  - b) Claim 8 -- recites “a base station” instead of “the base station”.
  - c) Claim 7 is objected to because: the inclusion of the phrase “the communication terminal apparatus according to claim 1” in line 9 of claim 7 is not clear if the (claim 7) is depends on claim 1 or connected to claim 1. The examiner would appreciate if the applicant would clarify this matter.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims **1, 2, 4-6** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Steele (U.S. PN: 5,867,510).

As per claim **1**, Steel teaches or discloses a method of decoding and processing messages in radio communication systems (see col. 1, lines 5-9). Steel in figure 1 discloses a communication system (100) includes a base station (102) and a mobile station (104) communicate through radio signals (see col. 2, lines 51-61) whereby the mobile station comprises a transmitter (returner) (134) for transmitting or returning transmission data (with an error data or non-error data) connected to a digital data processor (130) and a processor (132) comprising an error detector (174) and error corrector (176).

As per claim **2**, Steele teaches all the subject matter claimed in claim 1 including that each of the BCH syndrome having a non-zero value uniquely defines the position of a single bit error in a corresponding control access channel (CAC) data portion and the BCH error corrector (158) uses the plurality of BCH syndromes and a correction table (not shown) to correct a single error that may exist in each of the plurality of CAC data portions (step 606) (see col. 8, lines 13-28).

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As per claim 4, Steele teaches all the subject matter claimed in claim 1 including Steele in figure 1 teaches CRC error value generator coupled to CRC comparator to check the existence of error.

As per claims 5 and 6, Steele teaches all the subject matter claimed in claim 1 including Steele in figure 1 teaches a transceiver (134, 136) within the mobile system coupled to DSP (digital signal processor) (130) and a microprocessor (132) wherein the DSP and the microprocessor CRC is performed and transmitted by the transmitter (returner) (134) to the base station (102).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claims **3, 7 and 8**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Steele (U.S. PN: 5,867,510).

As per claim **3**, Steele teaches all the subject claim in claim 1 including that each of the BCH syndrome having a non-zero value uniquely defines the position of a single bit error in a corresponding CAC data portion and the BCH error corrector (158) uses the plurality of BCH syndromes and a correction table (not shown) to correct a single error that may exist in each of the plurality of CAC data portions (see fig. 6, step 606 and col. 8, lines 13-28). Steel **does not explicitly** teach the error corrector causes the error bit to be inverted to correct the errors. **Nevertheless**, as would have been well known to one ordinary skill in the art at the time the invention was made, employing or adding symbols (“ECC,” “redundancy,” “protection” or “check” symbols) with transmitted block, cell or frame can detect errors are required in order to locate the position of errors that are present in the bit stream received signal and if the position(s) of the erroneous bit(s) is identified, correction is achieved simply by inverting the identified erroneous bit(s), e.g., by changing a LOGIC ONE to a LOGIC ZERO, or vice versa. **Accordingly**, it would have been obvious to one ordinary skill in the art to invert the identified erroneous bits in order to obtain accurate replica of transmitted signals.

As per claim **7**, Steel teaches or discloses an apparatus and a method of decoding and processing messages in radio communication systems (see col. 1, lines 5-9). Further, Steel in figure 1 discloses a communication system (100) includes a base station (102) and a mobile station (104) communicates through radio signals (see col. 2, lines 51-61). Furthermore, Steel teaches that a base station including a processor having an error detection code generator operative to generate an error detection code corresponding to information data, an error

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correction code generator operative to generate a plurality of error correction codes corresponding to a plurality of data portions of the information data and the error detection code and a transmitter coupled to the processor wherein the transmitter operative to transmit an encoded information unit that includes the information data, the error detection code, and the plurality of error correction codes (see claim 35). Steel **does not explicitly teach** a buffer while comparing a unit of transmission, **However**, Steel teach a processor having a detector and corrector coupled to a transmitter and a buffer is known in the art and common element to exist in a processor to store data temporarily. **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to include a buffer with in a processor to store transmitted data. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because a buffer is well known features of a processor.

As per claim 8, Steel teaches all the subject matter claimed in claim 7 including Steel in figure 1 teaches a transceiver (see elements 116 and 118) for receiving or transmitting (retransmitting) data.

8. Claim 9, is rejected under 35 U.S.C. 103(a) as being unpatentable Lockhart et al. (U.S. PN: 6,161,207) in view of over Steele (U.S. PN: 5,867,510).

As per claim 9, Lockhart et al. in figure 1 teach or disclose a communication unit (10) comprising a transceiver (11), a processor (12) and a storing unit (13) wherein the processor includes a CRC error check (30), CRC generator (34) coupled to the storing unit and to a NAK unit (negative re-transmitter) (36). Lockhart et al. **do not explicitly teach** correcting the error on

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the communication unit. **However**, Steele in figure 1 teaches or discloses a Base station (102) comprising a transmitter (118) for transmitting data to the mobile station (104), a CRC error detection code generator (106) for detecting errors coupled to a BCH error correction code generator (108) for correcting errors. **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to implement the teachings of Lockhart et al. to employ an error corrector for correcting the detected errors as taught by Steel. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to employ a process for detecting errors and decoding processing message in order to increase call completion rates in RF communication systems (see col. 2, lines 4-8).

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US PN: 6320852	Obuchi et al.
US PN: 6,134,694	Uebayashi et al.
US PN: 6,157,628	Uebayashi et al.
US PN: 6275966	Sitterley
US PN: 5968197	Doiron
US PN: 5629948	Hagiwara et al.



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10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (703) 305-7743. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

*Esaw Abraham*  
Esaw Abraham

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*Guy J. Lamare*  
*for*

Albert DeCady  
Primary Examiner